a) obtaining a nucleic acid sample from the individual; and

b) determining the nucleotide present at nucleotide position 5254 of SEQ ID NO: 1, wherein the nucleotide position is numbered from the putative initiation codon,

B8

wherein presence of a thymine at said position is indicative of increased likelihood of neurodegenerative disease in the individual as compared with an individual having a cytosine at said position.

29. (Amended) A method of diagnosing or aiding in the diagnosis of neurodegenerative disease in an individual comprising:

a) obtaining a nucleic acid sample from the individual; and

b) determining whether there is a deletion of a thymine at nucleotide position 6594 of SEQ ID NO: 1, wherein the nucleotide position is numbered from the putative initiation codon,

B9

wherein deletion of a thymine at said position is indicative of increased likelihood of neurodegenerative disease in the individual as compared with an individual who does not have a deletion at said position.

34. (Amended) A method of treating a neurodegenerative disorder associated with the presence of a thymine at nucleotide position 5254 of SEQ ID NO: 1 in an individual, wherein the nucleotide position is numbered from the putative initiation codon,

B10

comprising administering to the individual an agent selected from the group consisting of:

a) a polypeptide encoded by SEQ ID NO: 2 or an active portion thereof;

b) a nucleic acid molecule which encodes SEQ ID NO: 2 or an active portion of SEQ ID NO: 2; and

c) an agonist of SEQ ID NO: 2.

35. (Amended) A method of treating a neurodegenerative disorder associated with a deletion at nucleotide position 6594 of SEQ ID NO: 1 in an individual, wherein the nucleotide position is numbered from the putative initiation codon, comprising administering to the individual an agent selected from the group consisting of:

a) a polypeptide encoded by SEQ ID NO: 2 or an active portion thereof;

b) a nucleic acid molecule which encodes SEQ ID NO: 2 or an active portion of SEQ ID NO: 2; and

c) an agonist of SEQ ID NO: 2.

B10

36. (Amended) A method of diagnosing or aiding in the diagnosis of neurodegenerative disease associated with the presence of a thymine at nucleotide position 5254 of SEQ ID NO: 1 in an individual, wherein the nucleotide position is numbered from the putative initiation codon, comprising:

a) obtaining a sample comprising a Spastin polypeptide from the individual;

b) determining the size of the Spastin polypeptide,

wherein if the Spastin polypeptide is significantly shorter than SEQ ID NO: 2 it is indicative of neurodegenerative disease.

B11

38. (Amended) A method of diagnosing or aiding in the diagnosis of neurodegenerative disease associated with the presence of a deletion at nucleotide position 6594 of SEQ ID NO: 1 in an individual, wherein the nucleotide position is numbered from the putative initiation codon, comprising:

a) obtaining a sample comprising a Spastin polypeptide from the individual;

b) determining the size of the Spastin polypeptide,

wherein if the Spastin polypeptide is significantly shorter than SEQ ID NO: 2 it is indicative of neurodegenerative disease.

REMARKS

Specification Amendments

The Specification has been amended to more clearly describe the invention. Specifically, the Specification has been amended to recite that the nucleotide positions of SEQ ID NO: 1 are numbered from the putative initiation codon. Support for these amendments can be found throughout the Specification, for example, on page 7, lines 9-10. No new matter has been added.